

CURRICULUM VITAE

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EDUCATION

- 1983 B.A. in Biology, University of California, Santa Cruz
1988 M.S. in Marine Sciences, University of North Carolina at Chapel Hill
1992 Ph.D. in Marine Sciences, University of North Carolina at Chapel Hill

RECENT PROFESSIONAL BACKGROUND

- 2002-present Research Associate, Institute of Marine Sciences, University of California, Santa Cruz, (courtesy adjunct appointment)
1997 Research Scientist, Exobiology Branch, NASA Ames Research Center, Moffett Field, California
1995-1997 Horn Point Environmental Laboratory Post-doctoral Fellow, Horn Point Environmental Lab, Cambridge, Maryland
1992-1995 Post-doctoral Researcher, Microsensor Group, Max Planck Institute for Marine Microbiology, Bremen, Germany
1988-1992 Research Assistant, Institute of Marine Sciences, University of North Carolina at Chapel Hill, Morehead City, NC

HONORS AND AWARDS

- 2012 Ames Honor Award – Mentor
2010 Ames Honor Award – Scientist/Researcher
2003 Space Act and *NASA Tech Brief* Awards “SemanticOrganizer: A Semantic Hypermedia System for Team-based Distribution Information Sharing” (finalist for 2003 NASA Software of the Year Award)
1990 Planetary Biology Internship, NASA Ames Research Center
1989 Geological Society of America Graduate Student Research Grant
1988 Best Student Paper Award, AGU/ASLO Ocean Sciences Meeting, New Orleans, Louisiana

RESEARCH INTERESTS

General microbial ecology; benthic photosynthetic communities; ancient microbial communities and their extant representatives; trace gas biogeochemistry; microsensor technology; sediment optics; ultraviolet radiation effects on benthic photosynthesis; mass transport across the sediment water interface; nutrient cycling in microbial mat communities and other shallow water environments; benthic and planktonic nitrogen fixation; remote instrument control and collaboration technologies

PROFESSIONAL ORGANIZATIONS

American Geophysical Union

Phycological Society of America

GRADUATE AND POST-DOCTORAL ADVISORS

M.S. Advisor: J. J. Kohlmeyer, University of North Carolina at Chapel Hill

Ph.D. Advisor: H. W. Paerl, University of North Carolina at Chapel Hill

Post-doctoral Advisor: B. B. Jørgensen, Max Planck Institute for Marine Microbiology

Post-doctoral Advisor: J. Cornwell, University of Maryland Horn Point Laboratory

PUBLICATIONS AND PATENTS

Murphy, T.E., S. Pilorz, L. Prufert-Bebout, and B. M. Bebout. (in press) A novel microsensor for measuring angular distribution of radiative intensity. *Photochemistry and Photobiology*.

Detweiler, A. M., C. Mioni, Hellier, K., J. Allen, S.A. Carter, B.M. Bebout, E.D. Fleming, C. Corrado, and L.E. Prufert-Bebout, (In press). Evaluation of wavelength selective photovoltaic panels on microalgae growth and photosynthetic efficiency. *Bioresource Technology*

Kelley, C. A., B. E. Nicholson, C. S. Beaudoin, A. M. Detweiler, and B. M. Bebout. 2014.

Trimethylamine and organic matter additions reverse substrate limitation effects on the $\delta^{13}\text{C}$ values of methane produced in hypersaline microbial mats. *Applied and Environmental Microbiology* **80**:7316-7323.

Fleming, E. D., B. M. Bebout, M. Tan, F. Selch, and A. Ricco. GraviSat, A new platform for studying photosynthesis and microalgae in space. *Life Sciences in Space Research*: **3**:63-75.

Garcia Maldonado, J. Q., B. M. Bebout, R. C. Everroad, and A. López-Cortés. 2014. Evidence of novel phylogenetic lineages of methanogenic archaea from hypersaline microbial mats.

Microbial Ecology **69**: 106–117.

Detweiler, A., B. Bebout, A. Frisbee, C. Kelley, J. Chanton, and L. E. Bebout. 2014. Characterization of methane flux from photosynthetic oxidation ponds in a wastewater treatment plant. *Water Science and Technology* **70.6**: 980-989.

Woebken, D., L. C. Burow, F. Behnam, X. Mayali, A. Schintlmeister, E. D. Fleming, L. Prufert-Bebout, S. W. Singer, A. López Cortés, T. M. Hoehler, J. P. Pett-Ridge, A. M. Spormann, M. Wagner, P. K. Weber, and B. M. Bebout. 2015. Revisiting N₂ fixation in Guerrero Negro intertidal microbial mats with a functional single-cell approach. *ISME Journal* **9**:485-496.

Burow, L. C., D. Woebken, I. P. G. Marshall, S. W. Singer, J. Pett-Ridge, L. Prufert-Bebout, A. M. Spormann, B. M. Bebout, P. K. Weber, and T. M. Hoehler 2014. Identification of Desulfobacterales as primary hydrogenotrophs in a complex microbial mat community, *Geobiology*, **12**: 221-230.

Lee, J.Z., L.C. Burow, D. Woebken, R.C. Everroad, M.D. Kubo, A.M. Spormann, P.K. Weber, J. Pett-Ridge, B.M. Bebout, and T.M. Hoehler. 2014. Fermentation couples Chloroflexi and sulfate-reducing bacteria to Cyanobacteria in hypersaline microbial mats. *Frontiers in Microbiology* **5**: 1-17.

Everroad, R.C., D. Woebken, S.W. Singer, L.C. Burow, N. Kyrpides, T. Woyke, L. Goodwin, A. Detweiler, L. Prufert-Bebout, and J. Pett-Ridge. 2013. Draft genome sequence of an Oscillatorian Cyanobacterium, strain ESFC-1. *Genome Announcements* **1**:1-2.

- Bebout, B., E. Fleming, M. Piccini, C. Beasley, L. Bebout. 2012. Environmental Monitoring of Microbe Metabolic Transformations. Patent number US 8,412,469 B1. The United States of America as Represented by the Administrator of the National Aeronautics & Space Administration (NASA), Washington, DC (US).
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- Wan Salim W.W.A., M.A. Zeitche, A.C. Hermann, A.J. Ricco, M. Tan, F. Selch, E. Fleming, B.M. Bebout, M.M. Bader, A. ul Haque, and D.M. Porterfield. 2013. Multi-analyte Biochip (MAB) Based on All-solid-state Ion-selective Electrodes (ASSISE) for Physiological Research. *The Journal of Visualized Experiments* 74
- Burow, L. C., D. Woebken, I. P. G. Marshall, E. A. Lindquist, B. M. Bebout, L. Prufert-Bebout, T. M. Hoehler, S. G. Tringe, J. Pett-Ridge, P. K. Weber, A. M. Spormann, and S. W. Singer. 2012. Anoxic carbon flux in photosynthetic microbial mats as revealed by metatranscriptomics and NanoSIMS. *ISME Journal* 7:817-829.
- Tazaz, A.M, B.M. Bebout, C.A. Kelley, J. Poole, and J.P. Chanton. 2012. Redefining the isotopic boundaries of biogenic methane: Methane from endoevaporites. *Icarus* 224:268-275.
- García-Maldonado, J. Q., B.M. Bebout, B. L.B. Celis, A. López-Cortés. 2012. Phylogenetic diversity of methyl-coenzyme M reductase (mcrA) genes and methanogenesis from trimethylamine in hypersaline environments. *International Microbiology*:15:33-41.
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